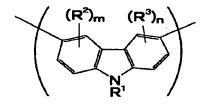
## 1 WHAT IS CLAIMED IS:

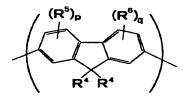
2

- A polymer for forming an organic
- 4 electroluminescence device, which is composed of a
- 5 polymer having, in its main chain, a structural unit
- 6 represented by the following general formula (1-a) and a
- 7 structural unit represented by the following general
- 8 formula (1-b):
- 9 General formula (1-a):



10

- 11 wherein  $R^1$  is an alkyl group or, an aromatic group which
- 12 may be substituted,  $R^2$  and  $R^3$  are, independently of each
- 13 other, a substituent of a monovalent organic group and
- 14  $\,$  may be the same or different from each other,  $\,$ m is an
- 15 integer of 0 to 3, and n is an integer of 0 to 3; and
- 16 General formula (1-b):



17

- 18 wherein  $R^4$  is an alkyl group,  $R^5$  and  $R^6$  are, independently
- 19 of each other, a monovalent organic group and may be the

20 same or different from each other, p is an integer of 0

- 21 to 3, and q is an integer of 0 to 3, and;
- 22 the polymer being used for forming an electroluminescence
- 23 device.
- 1 2. The polymer according to claim 1 for forming an
- 2 organic electroluminescence device, which comprises a
- 3 structural unit represented by the following general
- 4 formula (a):
- 5 General formula (a):

repeated structural units.

$$(R^{5})_{p}$$
  $(R^{5})_{q}$ 
 $(R^{5})_{m}$   $(R^{5})_{q}$ 
 $R^{4}$   $R^{4}$   $R^{4}$   $R^{4}$ 

6

16

7 wherein R<sup>1</sup> is an alkyl group or, an aromatic group which may be substituted, R<sup>2</sup> and R<sup>3</sup> are, independently of 8 each other, a substituent of a monovalent organic group 9 and may be the same or different from each other,  $R^4$  is 10 an alkyl group,  $R^5$  and  $R^6$  are, independently of each 11 12 other, a monovalent organic group and may be the same or different from each other, m is an integer of 0 to 3, n 13 14 is an integer of 0 to 3, p is an integer of 0 to 3, q is an integer of 0 to 3, and a and b are the numbers of 15

- 1 3. The polymer according to claim 1 for forming an
- 2 organic electroluminescence device, which comprises a
- 3 structural unit represented by the following general
- 4 formula (b):
- 5 General formula (b):

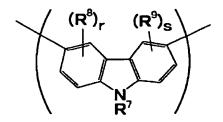
$$(R^{5})_{p}$$
  $(R^{5})_{q}$ 
 $(R^{2})_{m}$   $(R^{3})_{n}$ 
 $(R^{4})_{q}$ 
 $(R^{4})_{q}$ 

6

- 7 wherein R<sup>1</sup> is an alkyl group or, an aromatic group which
- 8 may be substituted,  $R^2$  and  $R^3$  are, independently of each
- 9 other, a monovalent organic group and may be the same or
- 10 different from each other, R4 is an alkyl group, R5 and R6
- 11 are, independently of each other, a monovalent organic
- 12 group and may be the same or different from each other, m
- 13 is an integer of 0 to 3, n is an integer of 0 to 3, p is
- 14 an integer of 0 to 3, and q is an integer of 0 to 3.
  - 1 4. The polymer according to any one of claims 1 to
  - 2 3 for forming an organic electroluminescence device,
  - 3 which has a weight average molecular weight of 5,000 to
  - 4 1,000,000 in terms of polystyrene as measured by gel
  - 5 permeation chromatography.
  - 5. A polymer composition for organic

- 2 electroluminescence devices, comprising a polymer
- 3 component composed of the polymer according to claim 2 or
- 4 3 for forming an organic electroluminescence device, and
- 5 a complex component composed of an iridium complex
- 6 compound that is a triplet luminescent material.
- 1 6. An organic electroluminescence device
- 2 comprising a functional organic layer having a function
- 3 as a luminescent layer or charge transport layer formed
- 4 by the polymer composition according to claim 5 for
- 5 organic electroluminescence devices.
- 1 7. A polymer having, in its main chain, a
- 2 structural unit represented by the following general
- 3 formula (2-a) and a structural unit represented by the
- 4 following general formula (2-b):
- 5 General formula (2-a):

6



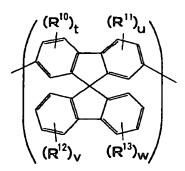
7 wherein  $R^7$  is an alkyl group or, an aromatic group which

8 may be substituted, R<sup>8</sup> and R<sup>9</sup> are, independently of each

9 other, a monovalent organic group and may be the same or

10 different from each other, r is an integer of 0 to 3, and

- 11 s is an integer of 0 to 3; and
- 12 General formula (2-b):



13

14 wherein  $R^{10}$  and  $R^{11}$  are, independently of each other, a

15 monovalent organic group and may be the same or different

16 from each other, R<sup>12</sup> and R<sup>13</sup> are, independently of each

17 other, a monovalent organic group and may be the same or

18 different from each other, t is an integer of 0 to 3, u

19 is an integer of 0 to 3, v is an integer of 0 to 4, and w

20 is an integer of 0 to 4.

- 1 8. A polymer for forming an organic
- 2 electroluminescence device, which is composed of the
- 3 polymer according to claim 7 and is used for forming an
- 4 organic electroluminescence device.
- 9. The polymer according to claim 8 for forming an
- 2 organic electroluminescence device, which comprises a
- 3 structural unit represented by the following general
- 4 formula (c):

5

## 6 General formula (c):

$$(R^{9})_{r}$$
  $(R^{9})_{s}$   $(R^{10})_{t}$   $(R^{11})_{u}$   $(R^{9})_{r}$   $(R^{9})_{s}$   $(R^{12})_{v}$   $(R^{13})_{w}$   $(R^{13})_{w}$ 

7

8 wherein  $R^7$  is an alkyl group or, an aromatic group which

9 may be substituted, R<sup>8</sup> and R<sup>9</sup> are, independently of each

10 other, a monovalent organic group and may be the same or

11 different from each other, R<sup>10</sup> and R<sup>11</sup> are, independently

12 of each other, a monovalent organic group and may be the

13 same or different from each other, R12 and R13 are,

14 independently of each other, a monovalent organic group

15 and may be the same or different from each other, r is an

16 integer of 0 to 3, s is an integer of 0 to 3, t is an

17 integer of 0 to 3, u is an integer of 0 to 3, v is an

18 integer of 0 to 4, w is an integer of 0 to 4, and c and d

19 are the numbers of repeated structural units.

- 1 10. The polymer according to claim 9 for forming
- 2 an organic electroluminescence device, wherein a ratio
- 3 (d/c) of the numbers c and d of repeated structural units
- 4 in the general formula (c) is 1 to 5.
- 1 11. The polymer according to any one of claims 8
- 2 to 10 for forming an organic electroluminescence device,

- 3 wherein the polymer is obtained by subjecting a monomer
- 4 having 2 functional groups selected from reactive halide
- 5 functional groups and boron derivative functional groups
- 6 and a skeletal structure derived from carbazole, and a
- 7 monomer having 2 functional groups selected from reactive
- 8 halide functional groups and boron derivative functional
- 9 groups and a skeletal structure derived from
- 10 spirofluorene to a coupling reaction in the presence of a
- 11 palladium catalyst.
  - 1 12. The polymer according to any one of claims 8
  - 2 to 10 for forming an organic electroluminescence device,
  - 3 which has a weight average molecular weight of 5,000 to
  - 4 1,000,000 in terms of polystyrene as measured by gel
  - 5 permeation chromatography.
  - 1 13. A polymer composition for organic
  - 2 electroluminescence devices, comprising a polymer
  - 3 component composed of the polymer according to claim 9
  - 4 for forming an organic electroluminescence device, and a
  - 5 complex component composed of an iridium complex compound
- 6 that is a triplet luminescent material.
- 1 14. An organic electroluminescence device
- 2 comprising a functional organic layer having a function
- 3 as a luminescent layer or charge transport layer formed
- 4 by the polymer according to claim 9 for forming the

- 5 organic electroluminescense device.
- 1 15. An organic electroluminescence device
- 2 comprising a functional organic layer having a function
- 3 as a luminescent layer or charge transport layer formed
- 4 by the polymer composition according to claim 13 for
- 5 organic electroluminescence devices.
- 1 16. The organic electroluminescence device
- 2 according to claim 14 or 15, which has a hole blocking
- 3 layer.